

NISHIDA et al. - Application No. 10/534,104
This Amendment filed March 8, 2010

REMARKS

Reconsideration and allowance of the present application are respectfully requested.

Claims 3, 4, 5, 6, 8, 12, 13, 15, 16, 17, 20, 22, 25, 26, 27, 34, 35 and 36 are pending in this application. Claims 15 and 16 have been amended. Claims 1, 2, 7, 9, 10, 11, 14, 18, 19, 21, 23, 24 and 28-33 have been previously cancelled. Claim 27 is withdrawn.

Claims 15 and 16 have been amended as supported in the present specification including at page 7, line 23, at page 8, lines 2-3, and at page 17, line 25-27. No new matter has been added.

The applicant respectfully traverses the rejection of claims 3-6, 8, 25-26 and 34 under 35 USC 103(a) over Jangaard et al. in view of statements in the present application. These references do not make the presently claimed invention to be obvious.

Importantly, while Jangaard et al. is directed to beer production, the reference is silent on production of beer by fermentation stopping process. The underlying technical basis for the rejection appears to be that the beer production process taught in Jangaard can be applied to the presently claimed method for producing low-alcohol beer by a fermentation stopping process.

The applicant respectfully submits that a person of ordinary skill in the art would understand that Jangaard does not teach a method for producing low-alcohol beer by a fermentation stopping process as in the presently claimed method.

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A person of ordinary skill in the art would know that typically, a beer production process includes steps of a primary fermentation step (about 4 days), secondary fermentation step, and beer storage step. In beer production, off-flavor causing substances are mainly produced in the main fermentation step. In other words, off-flavor causing substances are mainly produced during the yeast growth period. The off-flavor causing substances have been reduced in secondary fermentation and beer storage steps, due to chemical reaction of the off-flavor causing substances. Thus, a disclosed process for beer production should include steps to reduce off-flavor causing substances in secondary fermentation and beer storage steps.

In contrast to typical beer production, the presently claimed method is directed to low-alcohol beverage production by fermentation stopping process. The process includes primary fermentation step (several hours), subsequent cooling step, and yeast removing step. Fermentation stopping process does not include secondary fermentation and beer storage steps, in which off-flavor causing substances have been reduced. Further, in the fermentation stopping process of the presently claimed method, primary fermentation is stopped after several hours' fermentation while fermentation yeast growth is active. Therefore, off-flavor causing substances are actively formed. The off-flavor problem cannot be solved by simply adapting existing teachings of beer production. In the presently claimed method, the production of off-flavor causing substances is prevented by adjusting the concentration of wort ingredients. This feature is not disclosed or suggested by the prior art.

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The steps in which off-flavor substances are suppressed or reduced significantly differ between typical beer production and the presently claimed method regarding low-alcohol beverage production by a fermentation stopping process.

The applicant submits that a person of ordinary skill in the art would understand that the Jangaard disclosure regarding typical beer production cannot be simply applied to the fermentation stopping process of the presently claimed method.

Accordingly, the applicant submits that the presently claimed method is nowhere disclosed, suggested or made obvious by the teachings of Jangaard taken with disclosures in the present application. The presently claimed invention is fully allowable under Section 103(a) in view of the prior art.

The applicant respectfully traverses the rejection of claims 12, 13, 15, 16, 25, 26 and 35 under 35 USC 103(a) over Nakanishi et al. in view of Pugh et al. and statements in the specification.

Nakanishi et al. discloses in a typical process of producing beer, including a method to reduce a quantity of once-formed diacetyl in the second step of the fermentation without growth of yeast. In contrast, the presently claimed invention relates to a method for suppressing diacetyl formation in the fermentation step with growth of yeast by adjusting the free amino nitrogen level (FAN level) in wort or fermenting wort (see page 5, line 28 to page 6, line 5; and page 12, line 25 to page 14, line 23). To better clarify patentable features of the presently claimed method, claims 15 and 16 have been amended, as shown above, to recite that with the growth of yeast, diacetyl formation is suppressed in the fermentation step.

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Similar to Jangaard et al. discussed above, Nakanishi et al. is directed to beer production, the reference is silent on production of beer by fermentation stopping process. The underlying technical basis for the rejection appears to be that the beer production process taught in Nakanishi can be applied to the presently claimed method for producing low-alcohol beer by a fermentation stopping process.

The applicant respectfully submits that a person of ordinary skill in the art would understand that Nakanishi does not teach a method for producing low-alcohol beer by a fermentation stopping process as in the presently claimed method.

A person of ordinary skill in the art would know that typically, a beer production process includes steps of a primary fermentation step (about 4 days), secondary fermentation step, and beer storage step. In beer production, off-flavor causing substances are mainly produced in the main fermentation step. In other words, off-flavor causing substances are mainly produced during the yeast growth period. The off-flavor causing substances have been reduced in secondary fermentation and beer storage steps, due to chemical reaction of the off-flavor causing substances. Thus, a disclosed process for beer production should include steps to reduce off-flavor causing substances in secondary fermentation and beer storage steps.

In contrast to typical beer production, the presently claimed method is directed to low-alcohol beverage production by fermentation stopping process. The process includes primary fermentation step (several hours), subsequent cooling step, and yeast removing step. Fermentation stopping process does not include secondary fermentation and beer storage steps, in which off-flavor causing substances have been

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reduced. Further, in the fermentation stopping process of the presently claimed method, primary fermentation is stopped after several hours' fermentation while fermentation yeast growth is active. Therefore, off-flavor causing substances are actively formed. The off-flavor problem cannot be solved by simply adapting existing teachings of beer production. In the presently claimed method, the production of off-flavor causing substances is prevented by adjusting the concentration of wort ingredients. This feature is not disclosed or suggested by the prior art.

The steps in which off-flavor substances are suppressed or reduced significantly differ between typical beer production and the presently claimed method regarding low-alcohol beverage production by a fermentation stopping process.

The applicant submits that a person of ordinary skill in the art would understand that the Nakanishi disclosure regarding typical beer production cannot be simply applied to the fermentation stopping process of the presently claimed method.

Accordingly, the applicant submits that the presently claimed method is nowhere disclosed, suggested or made obvious by the teachings of Nakanishi et al. The disclosures of Pugh et al. and disclosures in the present application do not remedy the deficiencies of Nakanishi. The presently claimed invention is fully allowable under Section 103(a) in view of the prior art.

The applicant respectfully traverses the rejection of claims 17, 20, 22, 25, 26 and 36 under 35 USC 103(a) over Nakanishi et al. in view of Pugh et al., statements in the application and in further view of Jangaard et al.

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The teachings of the primary references of Jangaard et al. and Nakanishi et al. have been discussed above and the presently claimed process thoroughly distinguished over these references. The teachings of Pugh et al. and statements in the present application do not remedy the deficiencies of Nakanishi and Jangaard.

Accordingly, the presently claimed method is fully allowable under 35 USC 103(a) over the cited prior art.

In view of the above, it is believed that this application is in condition for allowance and a Notice to that effect is respectfully requested.

Respectfully submitted,

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